

What is claimed is:

1. A mobile communication system performing both radio communication to a mobile station and packet communication within the system, said mobile communication system
5 comprising:

a plurality of nodes of a tree-shaped connection structure, having a boundary node to a different network positioned at the top,

wherein management information of the mobile station
10 is retained in an end-side node among the plurality of nodes.

2. The mobile communication system according to claim 1,

wherein, each plurality of nodes transfers a user data
15 either received from a node located in the network concerned, or received from the different network and addressed to the network of interest, by use of the broadcast format to the end-side nodes, in which the user data is further transmitted to a mobile station subordinate to and managed
20 by the end-side node, based on the management information.

3. The mobile communication system according to claim 1,

wherein a parameter requesting to use a common traffic
25 channel is contained in a connection request signal transmitted from the mobile station to the end-side node, and by use of the parameter, the end-side node secures a

transmission path for transferring the user data on the common channel provided between the mobile station and the end-side node.

5 4. The mobile communication system according to claim
3,

wherein an IP address assigned to the mobile station is further contained in the connection request signal, and the end-side node generates a management table having the
10 IP address correspondingly to a number for identifying the mobile station, and the mobile station is managed on an IP address basis according to the management table.

5. The mobile communication system according to claim
15 1,

wherein the end-side node comprises at least a function of managing the terminal location, a function of managing a communication path, and environment setting information necessary for establishing packet communication between
20 the mobile station and the end-side node, and a message transmitted from the mobile station for generating the environment setting information is terminated in the end-side node.

25 6. The mobile communication system according to claim
1,

wherein the end-side node is either a radio base station

or a radio network controller.

7. A packet transmission method in the mobile communication system according to claim 1, comprising:

5 a first processing procedure registering the location of the mobile station into the end-side node by setting up a signal transmission path between the end-side node and the mobile station ;

a second processing procedure setting a mobile
10 communication environment; and

a third processing procedure setting up a user data transmission path.

8. A mobile communication system transmitting
15 information either addressed to or originated from a mobile station on a packet communication basis between hierarchically disposed nodes,

wherein a node disposed on the superordinate side in the hierarchy comprises a means for transmitting a packet
20 in the broadcast format to the nodes disposed on the subordinate side, and

a node disposed on the subordinate side in the hierarchy comprises a means for transmitting a packet to a predetermined node superordinate to the node of interest,
25 according to the information received from the mobile station .

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9. A node included in a mobile communication system transmitting information either addressed to or originated from a mobile station on a packet communication basis between hierarchically disposed nodes, said node
5 comprising:

a transmission means for transmitting a packet in the broadcast format to the nodes disposed on the subordinate side in the hierarchy; and

a reception means for receiving a packet transmitted
10 from a predetermined subordinate node.

10. The node according to claim 9,
wherein the transmission means broadcasts a packet not addressed to a different system, and
15 when a received packet is addressed to the different system, the reception means transmits said packet either to the different system, or to the corresponding further superordinate node in the hierarchy.

20 11. A node included in a mobile communication system transmitting information either addressed to or originated from a mobile station on a packet communication basis between hierarchically disposed nodes, said node comprising:

25 a means for transmitting a packet to a predetermined superordinate node according to the information received from the mobile station ;

a means for managing the location information of the mobile station ; and

a transmission means for transmitting a received packet having been transmitted in the broadcast format from
5 the superordinate node in the hierarchy, to either a mobile station or a subordinate node further, when the packet is addressed to the mobile station of which location information is managed by the location information management means.

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